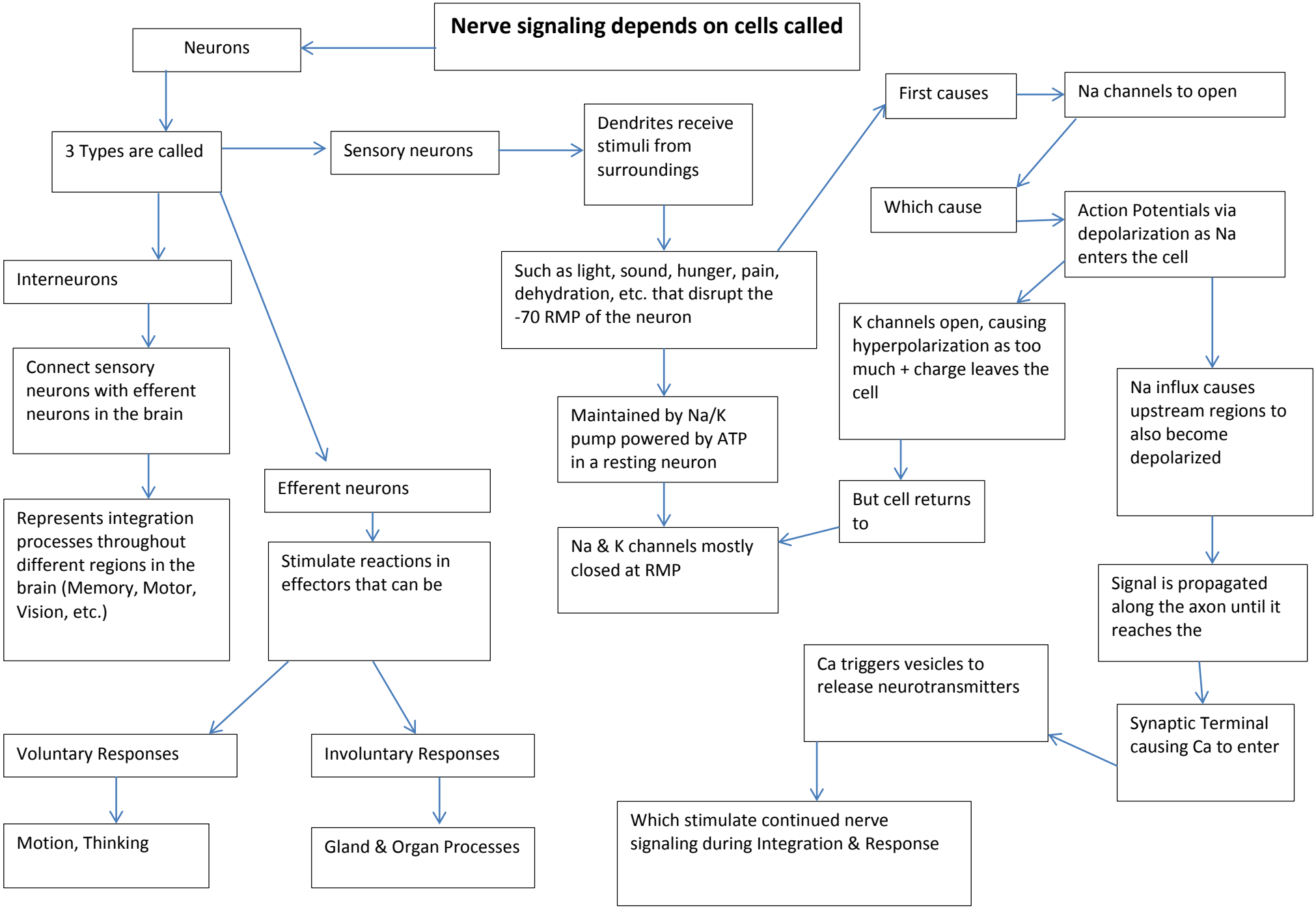
Nerve signaling depends on cells called
Neurons
3 Types are called
Sensory neurons
Dendrites receive stimuli from surroundings
Such as light, sound, hunger, pain, dehydration, etc. that disrupt the -70 RMP of the neuron
First causes
Na channels to open
Which cause
Action Potentials via depolarization as Na enters the cell
K channels open, causing hyperpolarization as too much + charge leaves the cell
But cell returns to
Na & K channels mostly closed at RMP
Maintained by Na/K pump powered by ATP in a resting neuron
Na influx causes upstream regions to also become depolarized
Signal is propagated along the axon until it reaches the
Synaptic Terminal causing Ca to enter
Ca triggers vesicles to release neurotransmitters
Which stimulate continued nerve signaling during Integration & Response
Interneurons
Connect sensory neurons with efferent neurons in the brain
Represents integration processes throughout different regions in the brain (Memory, Motor, Vision, etc.)
Efferent neurons
Stimulate reactions in effectors that can be
Voluntary Responses
Motion, Thinking
Involuntary Responses
Gland & Organ Processes